

Precalculus A

4.1 Angles and Their Measures

Day 2

HW: Assignment #1 in HW Packet

#21-30

Convert each degree measure into radians.

1. $290^\circ \cdot \frac{\pi}{180} = \frac{29\pi}{18}$

3. $970^\circ \cdot \frac{\pi}{18} = \frac{97\pi}{18}$

5. $510^\circ \cdot \frac{\pi}{6} = \frac{17\pi}{2}$

7. $210^\circ \cdot \frac{\pi}{6} = \frac{7\pi}{2}$

9. $240^\circ \cdot \frac{\pi}{3} = 4\pi$

11. $-945^\circ \cdot \frac{\pi}{4} = -\frac{21\pi}{4}$

13. $315^\circ \cdot \frac{\pi}{4} = \frac{7\pi}{4}$

15. $-520^\circ \cdot \frac{\pi}{9} = -\frac{26\pi}{9}$

17. $300^\circ \cdot \frac{\pi}{3} = 5\pi$

19. $555^\circ \cdot \frac{\pi}{12} = \frac{37\pi}{8}$

$$\frac{180}{510} = \frac{\pi}{r}$$

$$\frac{180x}{180} = \frac{570\pi}{180}$$

$$r =$$

2. $345^\circ \cdot \frac{\pi}{12} = \frac{23\pi}{8}$

4. $-510^\circ \cdot \frac{\pi}{6} = -\frac{17\pi}{2}$

6. $150^\circ \cdot \frac{\pi}{6} = \frac{5\pi}{2}$

8. $-240^\circ \cdot \frac{\pi}{3} = -4\pi$

10. $600^\circ \cdot \frac{\pi}{3} = 20\pi$

12. $675^\circ \cdot \frac{\pi}{4} = \frac{15\pi}{4}$

14. $570^\circ \cdot \frac{\pi}{6} = \frac{19\pi}{2}$

16. $40^\circ \cdot \frac{\pi}{9} = \frac{4\pi}{9}$

18. $0^\circ \cdot \frac{\pi}{10} = 0$

20. $165^\circ \cdot \frac{\pi}{10} = \frac{11\pi}{6}$

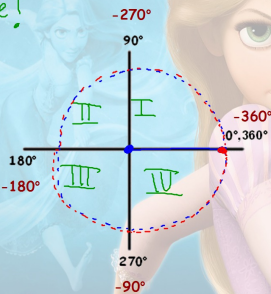
What Do Negative Degrees/Radians Mean?

It's all about direction and rotation!!!

Why negative?

$$r = d \cdot \frac{\pi}{180}$$

$$d = r \cdot \frac{180}{\pi}$$



Radian to Degree Conversions

To find radians

$$r = d \cdot \frac{\pi}{180^\circ}$$

To find degrees

$$d = r \cdot \frac{180^\circ}{\pi}$$

Let's Do Some Practice

Convert each radian measure into degrees.

$$d = \frac{21\pi}{4} \cdot \frac{180}{\pi} = 945^\circ$$

$$d = 945^\circ$$

$$\frac{7\pi}{4} = 315^\circ$$

$$\frac{180}{d} = \frac{\pi}{\frac{21\pi}{4}}$$

$$\pi d = 945\pi$$

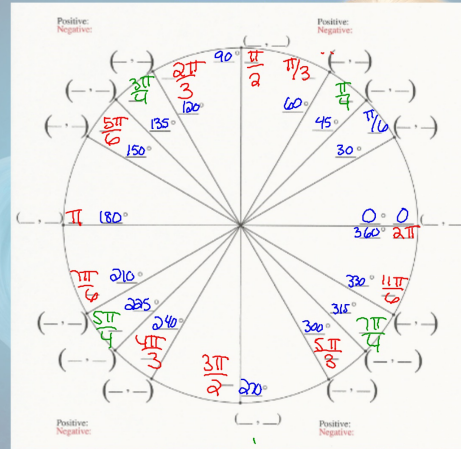
$$d = 945^\circ$$

$$-\frac{13\pi}{4} = -585^\circ$$

$$\frac{11\pi}{6} = 330^\circ$$

Paulson's
D. Paulson

The Unit Circle



Paulson's
D. Paulson